Status of CMS software on Linux 7.3 at FNAL

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Compiler issues:

- It was found that statically compiled compiler causes exceptions handling problems in IGUANA .

- It is required that compiler is built with the

  --enable-shared option . Because of this requirement we can not use public GCC installation provided in ups/upd at FNAL.

- New installation of GCC 2.95.2 in $CMS_PATH/i386_linux24/gcc-2.95.2 with the shared libraries available.

- Recompiled all software (DDD, COBRA, ORCA, IGUANA) with this compiler. Iguana works fine now.

ORCA news.

- Problems with generating root dictionaries in ORCA_7_1_0 investigated with the help of FNAL root team. Detected inconsistencies in configuration as well as bugs in the code.

- Resulted in new Root release, new COBRA release and ORCA_7_1_2 release with upgraded configuration.

- Untested RPM distribution for ORCA_7_1_2 is available.

Current Status at FNAL.

- Existing installation are already out of date.

- ORCA_7_1_0 version needs to be reconfigured and rebuilt with RedHat6.1 compiled CMSIM (presumably RedHat7.1 version compiled at CERN is a cause of runtime problems in *writeHits*).

- All builds for now only with GCC 2.95.2 compiler (no GCC 3.2).

Options and Next Steps

- Continue building and testing new releases: COBRA_7_1_2 , ORCA_7_1_1, etc.

- Install POOL project needed for COBRA.

  - POOL is a new LCG product, that provides support for persistency solutions (requires mysql tools).

- Work on automation of the installation and configuration procedures.

- DAR distribution

Options and Next Steps

- Try RPM distribution (CD vers 4.0) of CMS software. Concerns:
  - not tested by distributors
  - may require additional debugging efforts with no guarantees
  - installation from rpms in AFS pool is possible but quite painful.
  - some secondary requirements (e.g. POOL) that we may need for developments, are not included.
- In case of success this could be a convenient "fire–solution"!

Summary

- Transition of CMS OO software to Red Hat 7.3 platform and new persistency mechanism is still in process. Configuration is inconsistent in many respects (platforms, versions, environments…).

- Our efforts at FNAL helped to detect bugs and fix some problems. We need to continue this process to get fully functional development environment.

Post factum

- DAR distribution for ORCA_7_1_1 created and tested successfully at FNAL (writeHits). Available for download:

  http://computing.fnal.gov/cms/software/RH73

- RFIO library *libshift.so* needs to be added, unless available in the system (available from the above url).